

Appln. No. 09/499,736

Attorney Docket No. T2147-906343

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-14 (Cancelled)

15. (Currently Amended) A process for the remote authentication of a user for local access to a local machine of a network having a remote server managed by an administrator, classification means for classifying information, and communication means for connecting the user and the administrator comprising:

creating a challenge (D) capable of being transmitted by the communication means, the challenge including information a first portion including at least one byte representing the type of challenge, and a second portion including at least one byte representing version information and alphanumeric characters, the type of challenge representing whether a network authentication has been performed;

communicating the challenge (D) to the administrator together with elements known by the user, via the communication means;

performing a first predetermined calculation by means of the server and obtaining a first response (RD) that is a function of at least one of the challenge (D) and of predetermined data;

transmitting to the user by the administrator the first response (RD);

Appln. No. 09/499,736

Attorney Docket No. T2147-906343

performing a second calculation by means of the local machine and obtaining a second response (RD1) that is a function of at least one of the challenge (D) and of the predetermined data; and

comparing the first response (RD) transmitted by the administrator to the second response (RD1) obtained by the local machine so as to authenticate the user and locally authorize connection of the user to the local machine based on the result of the comparison.

16. (Previously Presented) A process according to claim 15, wherein the first predetermined calculation performed by the server comprises modifying, in accordance with a given algorithm, the challenge (D) and at least one of the following pieces of data:

- a.) at least one piece of information issued by the classification means and known by the user,
- b.) at least one secret shared between the server and the local machine, and
- c.) at least one element communicated by the user.

17. (Previously Presented) A process according to claim 15, wherein the second calculation performed by the local machine comprises modifying, in accordance with a given algorithm, the challenge (D) and at least one of the following pieces of data:

- a.) at least one secret shared between the server and the local machine, and
- b.) at least one element communicated by the user.

Appln. No. 09/499,736

Attorney Docket No. T2147-906343

18. (Previously Presented) A process according to claim 16, wherein the second calculation performed by the local machine comprises modifying, in accordance with a given algorithm, the challenge (D) and at least one of the following pieces of data:

- a.) at least one secret shared between the server and the local machine, and
- b.) at least one element communicated by the user.

19. (Previously Presented) A process according to claim 16, wherein said at least one shared secret is entered into the server and transmitted to the local machine during a successful network authentication.

20. (Previously Presented) A process according to claim 17, wherein said at least one shared secret is entered into the server and transmitted to the local machine during a successful network authentication.

21. (Previously Presented) A process according to claim 18, wherein said at least one shared secret is entered into the server and transmitted to the local machine during a successful network authentication.

22. (Currently Amended) A process according to claim 16, wherein said at least one shared secret or secrets, ~~as the case may be,~~ are modified by means of a modification key (C) that depends on the local machine, prior to being modified by the algorithm.

Appln. No. 09/499,736

Attorney Docket No. T2147-906343

23. (Previously Presented) A process according to claim 22, wherein the modification key (C) comprises concatenating the secret or a combination of secrets existing in the form of a byte string called a Master Station Secret and of hashing the byte string obtained through concatenation by means of a calculation algorithm, to obtain a byte string called a Station Secret.

24. (Previously Presented) A process according to claim 16, wherein said at least one shared secret or secrets are accompanied by a version number that is incremented each time the secret is modified.

25. (Previously Presented) A process according to claim 17, wherein said at least one shared secret or secrets are accompanied by a version number that is incremented each time the secret is modified.

26. (Previously Presented) A process according to claim 18, wherein said at least one shared secret or secrets are accompanied by a version number that is incremented each time the secret is modified.

27. (Previously Presented) A process according to claim 15, wherein the challenge is constituted by a byte string.

28. (Previously Presented) A process according to claim 16, wherein the challenge is constituted by a byte string.

Appln. No. 09/499,736

Attorney Docket No. T2147-906343

29. (Currently Amended) A process for the remote authentication of a user for local access to a local machine of a network having a remote server managed by an administrator, classification means for classifying information, and means for connecting the user and the administrator comprising:

creating a challenge (D) capable of being transmitted by the communication means;

communicating the challenge (D) to the administrator together with elements known by the user, via the communication means;

performing a first predetermined calculation by means of the server and obtaining a first response (RD) that is a function of at least one of the challenge (D) and/or of predetermined data;

transmitting to the user by the administrator the first response (RD);

performing a second calculation by means of the local machine and obtaining a second response (RD1) that is a function of at least one of the challenge (D) and of the predetermined data; and

comparing the first response (RD) transmitted by the administrator to the second response (RD1) obtained by the local machine so as to authenticate the user and locally authorize connection of the user to the local machine based on the result of the comparison,

wherein the first predetermined calculation performed by the server comprises modifying, in accordance with a given algorithm, the challenge (D) and at least one of the following pieces of data:

at least one piece of information issued by the classification means and known by the user,

Appln. No. 09/499,736

Attorney Docket No. T2147-906343

at least one secret shared between the server and the local machine, and  
at least one element communicated by the user; and  
said at least one shared secret or secrets are accompanied by a version number that  
is incremented each time the secret is modified; and  
the challenge comprises:  
a first byte representing the type of challenge, the type of challenge indicating  
whether a network authentication has been performed;  
second and third bytes representing the version number of the shared information;  
and  
random alphanumeric characters of the fourth to twelfth bytes.

30. (Previously Presented) A process for the remote authentication of a user  
for local access to a local machine of a network having a remote server managed by an  
administrator, classification means for classifying information, and means for connecting  
the user and the administrator comprising:  
creating a challenge (D) capable of being transmitted by the communication  
means;  
communicating the challenge (D) to the administrator together with elements  
known by the user, via the communication means;  
performing a first predetermined calculation by means of the server and obtaining  
a first response (RD) that is a function of at least one of the challenge (D) and of  
predetermined data;  
transmitting to the user the first response (RD);

Appln. No. 09/499,736

Attorney Docket No. T2147-906343

performing a second calculation by means of the local machine and obtaining a second response (RD1) that is a function of at least one of the challenge (D) and of the predetermined data; and

comparing the first response (RD) transmitted by the administrator to the second response (RD1) calculated by the local machine so as to authenticate the user and locally authorize connection of the user to the local machine based on the result of the comparison, wherein,

the challenge comprises:

a byte string, comprising:

a first byte representing the type of challenge, the type of challenge indicating whether a network authentication has been performed;

second and third bytes representing the version number of the shared information;

and

random alphanumeric characters of the fourth to twelfth bytes.

31. (Previously Presented) A process according to claim 23, wherein the response (RD; RD1) is calculated by hashing, in accordance with a calculation algorithm, a character string comprising the concatenation in a predetermined order of the challenge, the character string resulting from the transformation by a calculation algorithm of the user's password, the Station Secret and the user's name.

32. (Previously Presented) A process according to claim 15, wherein the response (RD; RD1) is calculated by hashing, in accordance with a calculation algorithm, a character string comprising the concatenation in a predetermined order of the challenge,

Appln. No. 09/499,736

Attorney Docket No. T2147-906343

a fixed security key CC stored in the local machine and in the server, the name of the local machine, and the character string resulting from the transformation by a calculation algorithm of the user's password and user name.

33. (Previously Presented) A process according to claim 15, wherein the local connection authorized is temporary, the authorized duration of the local connection being configurable.

34. (Previously Presented) A process according to claim 15, further comprising locally authenticating the user after the user authenticated remotely is disconnected from the local machine.

35. (Cancelled)

36. (New) A computing system for the remote authentication of a user for local access to a local machine of a network having a remote server managed by an administrator, classification means for classifying information, and communication means for connecting the user and the administrator comprising:

means for creating a challenge (D) capable of being transmitted by the communication means, the challenge including a first portion including at least one byte representing the type of challenge, and a second portion including at least one byte representing version information and alphanumeric characters, the type of challenge representing whether a network authentication has been performed;



Appln. No. 09/499,736

Attorney Docket No. T2147-906343

means for communicating the challenge (D) to the administrator together with elements known by the user, via the communication means;

means for performing a first predetermined calculation by means of the server and obtaining a first response (RD) that is a function of at least one of the challenge (D) and of predetermined data;

means for transmitting to the user by the administrator the first response (RD);

means for performing a second calculation by means of the local machine and obtaining a second response (RD1) that is a function of at least one of the challenge (D) and of the predetermined data; and

means for comparing the first response (RD) transmitted by the administrator to the second response (RD1) obtained by the local machine so as to authenticate the user and locally authorize connection of the user to the local machine based on the result of the comparison.